

**BY ORDER OF THE COMMANDER
AIR COMBAT COMMAND**



**AIR FORCE INSTRUCTION 21-103
ACC SUPPLEMENT ADDENDUM P**

6 JANUARY 2011

Maintenance

***EQUIPMENT INVENTORY, STATUS, AND
UTILIZATION REPORTING SYSTEM/E-8
MINIMUM ESSENTIAL SUBSYSTEM LIST
(MESL)***

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SUMMARY OF CHANGES

The following represents a major modification to the E-8 MESL. The MESL should be reviewed in its entirety.

1.General. The MESL (Minimum Essential Systems List) is the basis of status reporting in accordance with (IAW) AFI 21-103. MESLs lay the ground work for reporting the status of aircraft availability. They list the minimum essential systems and subsystems that must work on an aircraft for it to perform specifically assigned unit wartime, training, test or other missions. Mission Ready Available (MRA) is used in readiness Status of Resources and Training System

(SORTS) reporting only and denotes Mission Capable (MC) aircraft capable of being configured for a contingency mission IAW COMACC OMNIBUS Plan.

1.1. Qualifying notes are used to define aircraft exceptions and help explain complex degraded mission systems.

1.2. Aircraft status for generation and deployment: The goal is to generate or deploy Fully Mission Capable (FMC) aircraft, recognizing status actually achieved may be less than FMC. A Not Mission Capable (NMC) aircraft may be deployed provided it is safe for flight and can be configured and generated to MRA status at an employment site.

1.3. All ACC units will generate, or deploy and regenerate, using ACC MESLs. Major Command (MAJCOM) differences in MESLs are acknowledged. Upon actual deployment to another MAJCOM theater, the gaining MAJCOM has the responsibility to resource and specify the unit's requirements and resource the differences in support/ mission equipment.

1.4. Reading the MESL. A MESL is read by comparing the systems stated by Work Unit Code (WUC) against the Full System List (FSL) and all applicable Basic System Lists (BSLs) across the page. Each unit's Design Operational Capability (DOC) statement determines applicability of BSL columns. The aircraft MESLs incorporate all ACC assigned aircraft; therefore it is important to compare only those columns listed in the MESL which are applicable to the unit's assigned aircraft. For example, units with combat coded (CA) aircraft would determine and report status using only the FSL and BSL (RT) columns related to their DOC statement. Units with training (TF) coded aircraft would determine and report status using only the FSL and BSL (TNG) columns, and units with test (CB) coded aircraft would determine and report status using only the FSL and BSL (TST) columns. Units with multiple coded aircraft will ensure status is reported using the MESL columns appropriate to the individual aircraft assignment code.

Table 1. E-8 A/C MESL

WUC	SYSTEM/SUBSYSTEM	FSL	BSL	
			TNG	RT
11	OUTSIDE AIRFRAME	X	X	X
11AL0	Windshield Wiper System	X	1	1
12	FLIGHT DECK/INNER AIRFRAME	X	X	X
12AA9	Attitude Warning Heat System (Pilot's Overhead Panel)	X	3	3
12AA9	Pitot Heat Ammeter Indicating System (Pilot's Overhead Panel)	X	76	76
12AA9	Pitot Heat Off Light (Pilot's Overhead Panel)	X	77	77
12AA9	Attitude Source Select Annunciator (Pilot & Co-pilot's Instrument Panel)	X	78	78
12AC9	Fuel Icing Caution Lights (Engineer's Lower Panel)	X	X	X
12AC9	Cockpit/ Cabin Duct Overheat Warning Light (Engineer's Upper Panel)	X	X	X
12AC9	Fuel Flow Meter Reset (Engineer's Lower Panel)	X	2	2
12AC9	Air Refueling Master and Reset (Engineer's Lower Panel)	X	64	64
12AC9	Air Refueling Status Lights (Ready, Latched and Disconnect on Engineer's Lower Panel)	X	67	67
12AC9	Inlet Duct Temperature Indicator	X	2	2
13	LANDING SYSTEM	X	X	X

WUC	SYSTEM/SUBSYSTEM	FSL	BSL	
			TNG	RT
13DB0	Pneumatic Brake System	X	X	X
13DBF	Brake Interconnect Valve	X	X	X
13DBP	Nose Wheel Well Pneumatic Brake Pressure Gauge	X	2	2
13DE0	Anti-skid System	X	X	X
13DEF	Brake Pressure Gauge (Cockpit)	X	X	X
13F00	Landing Gear/Door Warning and Indicating System	X	X	X
13FH0	Take-Off Warning Horn	X	X	X
14	FLIGHT CONTROL SURFACES	X	X	X
14EML	“Q” Inlet Heater	X	3	3
14EPG	Rudder Boost Pressure Gauge	X	X	X
14HKA	Wing Trailing Edge Flap Position Indicators	X	X	X
14K00	Leading Edge Flap Retraction System (Reverser Actuated)	X	4	4
14L00	Stabilizer Trim System/Brake	X	5	X
14Lxx	Stabilizer Main Electric Trim Operating Light	X	95	95
23	ENGINES	X	X	X
23HAT	Fuel Heater Valves	X	6	6
23KA0	Ignition System	X	7	7
23LB0	Engine Anti-Ice System	X	8	8
23MA0	Tachometer System (N1 and N2 Tach Indicators)	X	9	9
23MBA	EGT Indicators	X	X	X
23MCB	EPR Indicator	X	10	10
23MD0	Oil Indicating System	X	11	11
23MDE	Oil Quantity Indicator	X	12	12
23MEB	Fuel Flow Indicator	X	13	13
23MEH	Fuel Tank Temperature Indicator	X	14	14
23PQ0	Thrust Reverser Control System / Lights	X	15	15
24	AUXILIARY POWER UNIT	X	16	16
24KD0	APU Fire External Thermal Discharge Disk	X	17	17
41	AIRCRAFT PRESSURIZATION AND COMFORT	X	X	X
41BBD	Cockpit Supply Shutoff Valve	X	X	X
41CAE	Gasper System / Fan	X	2	2
41E00	Pressurization Waveguide	X	18	X
41EE0	Bleed Air Pressure Regulating Valves	X	19	19
41F00	Cabin Pressure	X	20	20
41FG0	Aft Cabin Relief Valve	X	X	X
41FK0	Differential Pressure Dual Altimeter Indicator	X	21	21
41FNC	Cabin Altitude Warning Horn	X	22	22
41FPD	Pressurization Outflow Valves	X	23	23
41GJ0	Flight Deck Temperature	X	24	24
41GJC	Zone Temperature Control	X	20	20
41GQ0	Cabin Temperature Indicator	X	2	2
41HA0	Wing Anti-Ice System	X	25	25
41HAK	Wing Anti-Ice Duct Temperature Indicating System	X	26	26

WUC	SYSTEM/SUBSYSTEM	FSL	BSL	
			TNG	RT
41HB0	Flight Deck Window Heat	X	27	27
41JAM	Pack Turbofan (Left)	X	28	28
41JAN	Pack Turbofan Shutoff Valve (Left)	X	29	29
41JBM	Pack Turbofan (Right)	X	28	28
41JBN	Pack Turbofan Shutoff Valve (Right)	X	29	29
41JCA	Ram Air Shutoff Valve (Left)	X	30	30
41JCB	Ram Air Shutoff Valve (Right)	X	30	30
41LDO	Equipment Cooling Exhaust Valve Indicator Light	X	31	31
41LFO	Equipment Cooling Shutoff Valve	X	31	31
41LLO	Equipment Cooling Exhaust Blower	X	X	X
41MAB	Trim Air Valve	X	32	32
41NFO	Pack Overheat Warning Light	X	33	33
41PA0	Air Cycle Machine (Left)	X	34	34
41PC0	Air Cycle Machine (Right)	X	34	34
41Q00	Vapor Cycle Machine and Control	X	18	35
41QAA	Condenser Fan (and override)	X	36	36
41RA0	Pre-Cooler Valves	X	37	37
41RBD	Firewall Shutoff Bleed Air Valve	X	38	38
41RBE	Wing Isolation Valve (Left)	X	X	X
41RBF	Wing Isolation Valve (Right)	X	X	X
41RFF	Scoop Anti-Ice	X	3	3
41RFH	Air Supply Duct Pressure Indicator	X	X	X
41S00	Antenna Moisture Control	X	18	X
41T00	Liquid Cooling System	X	18	X
41UA0	Recirculation Fan	X	39	39
42	ELECTRICAL SYSTEMS	X	X	X
421A0	IDG	X	45	45
422A0	Generator Control Unit GCU	X	45	45
422T0	Frequency Meter	X	X	X
422V0	A.C. Voltmeter	X	X	X
422W0	Ammeters	X	X	X
422X0	Frequency Reference Auto-Paralleling Unit (FRAPU)	X	42	42
423G0	Transformer-Rectifier, 75 Amp	X	43	43
42199	IDG Low RPM Lights	X	X	X
42199	IDG Overheat Lights	X	44	44
42199	Essential Power Selector	X	45	45
42400	DC Power Control (Voltmeter and Loadmeter)	X	46	46
42500	External Power System	X	47	47
44	LIGHTING	X		
44100	Exterior Light System	X	48	48

WUC	SYSTEM/SUBSYSTEM	FSL	BSL	
			TNG	RT
441C0	Emergency Exit Lights	X	49	49
441CA	Runway Turnoff Lights	X	50	50
441EM	Anti-Collision Light System	X	51	51
44200	Cabin Interior Illumination	X	52	52
442BF	Cargo Compartment Light System	X	2	2
442D0	Cockpit and Instrument Lighting System	X	53	53
442DM	Leading Edge Flap Position Lights	X	54	54
442E6	Lower Nose Compartment Light	X	2	2
442H0	Crew Warning and Alert Lights	X	55	55
442HE	Door Warning Light System	X	X	X
45	HYDRAULICS	X	X	X
45A00	Utility Hydraulic	X	X	X
45ADO	Engine Driven Hydraulic Pump	X	X	X
45AFB	Utility System Pressure Gauge	X	X	X
45AGE	Utility Pump Supply Shutoff Valve	X	X	X
45B00	Auxiliary Hydraulic	X	X	X
45BEA	Pump, Cargo Door/ DC Aux Pump	X	2	2
45BFB	Hydraulic Systems Interconnect Valve	X	56	56
45CA0	Utility/Aux Hydraulic Pump Low Pressure Warning Light	X	57	57
45CBA	Hydraulic Quantity Indicator	X	X	X
45COO	Aux, Utility and Brake Accumulator Pressure Indicators	X	58	58
46	FUEL SYSTEMS	X	X	X
462BE	Fuel Manifold Cross Feed Switch	X	59	59
462DE	Engine Fuel Shutoff Valve (Position Indicator Line Light)	X	59	59
462F0	Main Tank Fuel Boost Pumps and Switch/Caution Lights	X	X	X
462H0	Center Tank Fuel Override Pumps and Switch/Caution Lights	X	60	60
462K0	Reserve Tank Transfer Valve #1	X	61	61
462L0	Reserve Tank Transfer Valve #4	X	61	61
462M0	Reserve Tanks Fuel Transfer Switch/Lights	X	62	62
462R0	Single Point Refueling System	X	2	2
462RM	Main Refuel Valve	X	63	63
462S0	In-flight Refueling System	X	64	64
462SC	Air Refueling Slipway Door Control Handle	X	64	64
462SF	Air Refueling Disconnect Switches	X	65	65
462SJ	Air Refueling Slipway Lights	X	66	66
462SN	Air Refueling Hydraulic Select Switch	X	64	64
46300	Fuel Dump System	X	X	X
464GB	Reserve Tank Indicator	X	68	68
464GC	Main Tanks 1 and 4 Indicator	X	69	69
464GD	Main Tanks 2 and 3 Indicator	X	69	69
464GE	Center Tank	X	70	70
47	OXYGEN REGULATION SYSTEMS	X	71	71

WUC	SYSTEM/SUBSYSTEM	FSL	BSL	
			TNG	RT
49	WARNING SYSTEMS	X	X	X
491DH	Engine Fire Extinguisher Thermal and Discharge Disks	X	72	72
51	AVIONIC INDICATION SYSTEMS	X	X	X
51A00	Attitude (Stall Prevention) Warning System	X	X	X
51BA0	Digital Flight Data Recorder (DFDR)	X	73	73
51BF0	Underwater Acoustical Locator Beacon	X	74	74
51C00	MACH/Airspeed Warning System (BELL)	X	75	75
51DC0	Pitot Tube (Heaters)	X	X	X
51E00	Total Air Temperature (TAT) Probes (Heaters)	X	3	3
51F00	Altimeters (& internal vibrator)	X	79	79
51FAB	Instantaneous Vertical Speed Indicator (IVSI)	X	81	81
51FAC	Mach Indicators	X	82	82
51FAD	Central Air Data Computer	X	83	83
51FBF	Static/Total Air Temp Indicators	X	84	84
51GA0	Standby ADI	X	X	X
51GC0	Standby Compass	X	X	X
51GEA	Turn and Slip Indicators (ADI)	X	85	85
51GEF	Heading Situational Indicator HSI (DME Indicator in HSI)	X	86	86
51GHA	Attitude Directional Indicator ADI	X	87	87
51H00	Attitude Heading and Reference System	X	88	88
51J00	Flight Director System	X	2	2
51K00	Ground Proximity Warning System	X	89	89
51LA0	Clocks	X	2	2
51M00	Altitude Alerter	X	90	90
52	AUTOPILOT	X	91	91
52DD0	Three-Axis Trim Indicator	X	93	93
52DG0	Autopilot Disengaged Warning Light	X	92	92
52DH0	Autopilot Disconnect Switch	X	65	65
52E00	Yaw Control and Yaw Damper System	X	78	78
52H00	Mach Trim System	X	94	94
57	INTEGRATED NAVIGATION SYSTEMS	X	X	X
57A00	Inertial Navigation System	X	96	96
57C00	FMS Data Bus System	X	78	78
57DB0	FMS Control Display Unit (CDU)	X	97	97
57DD0	Navigation Select Switches (P & CP)	X	98	98
57E00	Bus System Interface System (NBSIU)	X	81	81
61	HF RADIOS	X	2	100
62	VHF RADIOS	X	X	X
62C00	SINCGARS (ARC-201)	X	2	2
62B00	VHF Radio (ARC-186)	X	99	99
63	UHF RADIOS	X	X	X
63BC0	UHF Communications (ARC-225)	X	102	102
63BG0	HAVE QUICK Radio Frequency Oscillator	X	101	101

WUC	SYSTEM/SUBSYSTEM	FSL	BSL	
			TNG	RT
64	INTERCOM SYSTEM	X	X	X
64CA0	Intercommunication Station Crew Terminal	X	103	103
64CC0	Flight Station Units (FSU)	X	104	104
64CE0	General Interface Terminals	X	105	X
64CP0	Comm Bus System Interface Unit CBSIU	X	78	78
64CT0	Remote Readout Units (RRU)	X	2	2
64CU0	Converter, Digital-to-Digital DBI	X	78	78
64F00	Service Interphone System	X	106	106
64F00	Public Address System	X	107	107
64FB0	Communication Cords & PTTs	X	108	108
64FY0	Single Net Interphone Panel (SNIPs)	X	109	109
65	IFF	X	110	110
66	EMERGENCY COMMUNICATIONS	X	X	X
66A00	Cockpit Voice Recorder (CVR)/ System	X	73	73
66AB0	Emergency Locator Transmitter (ELT)	X	X	X
69	SECURE COMMUNICATIONS	X	X	X
69A00	Air Data Terminal Group SCDL	X		X
69B00	JTIDS Radio Set	X		78
69E00	SATCOM (ARC-231)	X		111
69M00	Broadcast Intelligence	X		
69N00	FBCB2 Communications	X		
69S00	INMARSAT Terminal Group / BLOS	X		
71	RADIO NAVIGATION	X	X	X
71A00	VOR/ILS System	X	112	112
71AF0	Radio Magnetic Directional Indicator (RMDI)	X	113	113
71B00	Marker Beacon	X	114	114
71C00	Low Frequency Automatic Direction Finder (LF/ADF)	X	112	112
71E00	Tactical Air Navigation (TACAN)	X	115	115
72	POSITION SYSTEMS	X	X	X
72A00	Low Range Radio Altimeter	X	116	116
72B00	Weather Radar System (PWS)	X	117	117
72C00	Global Positioning System	X		32
81	SURVEILLANCE RADAR SYSTEM	X		X
81AA0	Shifter, Phase	X		118
81AB0	Channel Assy, Receiver (Down Converter)	X		X
81AE0	CCA, Post Regulator	X		X
81CC0	Amplifier, Radio Frequency XMTR	X		119
81CH0	Converter, Analog to Digital Receiver	X		120
81CR0	Radar Bus Couplers & Digital Data Couplers	X		78
81CT0	Converter, Signal Processor RASP	X		78
82	COMPUTER AND DATA DISPLAY	X		X
82BA0	Central Computer CC	X		78
82BC0	LAN Bridge	X		X

WUC	SYSTEM/SUBSYSTEM	FSL	BSL	
			TNG	RT
82BD0	Serial Data Hub	X		X
82BE0	Central Computer Mass Storage Device CCMSD	X		121
82BF0	LAN Hub	X		X
82C00	Data Display Subsystem O&C	X		122
82F00	PCIDM	X		123
91	LIFE SUPPORT SYSTEMS	X	X	X
91C00	Escape Slides	X	124	124
91K00	Escape Straps	X	X	X
91L00	Crash Axe	X	X	X
91M00	Fire Resistant Gloves	X	X	X
91N00	First Aid Kits	X	X	X
91P00	Life Rafts	X	125	125
91R00	Survival Kits	X	X	X
96	EGRESS SYSTEMS	X	X	X
96A00	Portable Oxygen Bottles	X	X	X
96BD0	Firefighter's Smoke Mask	X	X	X

QUALIFYING NOTES	
1	PMC if inop. Left side must be operative during precipitation conditions.
2	PMC. May be inoperative.
3	PMC if inop. Aircraft cannot operate in icing conditions.
4	PMC. Reverse thrust will not be used
5	PMC. Air refueling and pattern work will not be conducted with one inoperable stab trim switch. Stab trim brake must be operable.
6	PMC if inop in the closed position provided the fuel tank temperature is maintained at or above 0 degrees C and fuel tank temperature indicator is operating.
7	PMC as long as one igniter per engine is operative and the Anti-Ice Valve(s) for the affected engine(s) are operative.
8	PMC if nacelle, left and/or right, is inop and verified in the closed position. Aircraft should not be operated in icing conditions.
9	PMC when inoperative if the other engine tachometers, EPR and fuel flow indicators are operating normally.
10	PMC if one EPR gauge is inoperative provided all other indications are normal. N1, N2, Fuel Flow and EGT on the affected engine(s) must operate normally. TRT take off is required.
11	Oil filter bypass warning system, oil pressure indicator and oil temperature indicator are always required.
12	PMC if inoperative provided the affected oil tank is filled to recommended fill level prior to each takeoff, no indication of above normal leakage and the associated temperature and pressure indications are normal.
13	PMC with no more than one inop and N1, N2 and EPR for the effected engine operate normally. The respective main tank quantity indicating system must be operative.
14	PMC if inop provided Total Air Temperature (TAT) is operative. Substitute TAT as indication of fuel temperature.
15	PMC if all are inop. Inop reverser(s) and/or reverser(s) with inop light must be locked and pinned (line capped) in the closed (forward thrust) position along with the symmetrical reverser.
16	PMC if inop. Fire warning light, EGT indicator and fire extinguisher required for use. Do not plan to land at locations without ground electrical and starting air capability.
17	PMC if missing. Use gauge to determine adequate charge for use
18	PMC if inop. May be inoperative for pilot proficiency.
19	PMC if one is inop. Two are required for pressurized flight up to FL250. Manually pin the inop valve(s). At least one valve must be operative for smoke and fume evacuation
20	PMC if manual control is operational.
21	PMC provided either the cabin differential pressure indication or cabin altitude indication is operating. If either indicator is inop, the other can be obtained by using conversion charts. Cabin Vertical Speed (rate of climb) indicator may be inop provided all other components are operative.
22	NMC flyable. Flight only below 10,000 feet
23	PMC if one is inop. One must be operative for pressurized flight.
24	PMC if Manual is operative. Crew Auxiliary Heat Valve must be operative.
25	PMC if inop. Aircraft may fly in icing conditions with three operative valves. Inop valve must be secured in the closed position.

QUALIFYING NOTES	
26	PMC if one setting on the indicator is inop. One operating indicator on each side is required for operations in icing conditions.
27	Always required for the pilot & copilot Main (#1) and Sliding (#2) windows. PMC if windows 3, and/or 4, and/or 5 inop. Airspeed is limited to 250 KIAS below 10,000 Ft. #4 and #5 Window Heat wires must be disconnected if inop.
28	PMC if one is operable. Associated ACM may be operated in flight only.
29	PMC if one inop in the closed position provided Pack is operated only in flight
30	PMC if either or both are inop (closed) providing both ACMS are operative with no limitations. One or both may be inop (open) for unpressurized flight.
31	PMC if inop provided the valve is positioned manually and the NO AIRFLOW warning light is operative.
32	NMC flyable. Always required when operating PME
33	PMC if one light is inop. Required for Pack operation
34	PMC if one is inop for pressurized flight below FL250. With PME operating, one ACM and the VCM must be operative to provide cooling
35	PMC if VCM is inop provided both ACMs are operable. If operating with only one ACM, VCM must be operative for PME operation.
36	PMC if inop. The VCM will only be operated in flight with the fan/override inop.
37	PMC if inop. Bleed Air Pressure Regulating Valve must be pinned closed.
38	PMC if one or two valve(s) are pinned closed. Two valves must be operative for smoke and fume evacuation. Associated Pressure Regulator and Shutoff Valve must be pinned closed. With two inop valves the acft is limited to pressurized flight below FL250 provided the inop valve(s) are pinned closed.
39	PMC if inop provided both ACMs are operable. Required for VCM operation.
40	Not Used
41	Not Used
42	PMC if the FRAPU is inop. The PME cannot be powered until the aircraft generators are online. Always required for "Hot Start" operations.
43	PMC if one is inop provided all DC busses are operative, the #2 TR and essential TR must be operating at all times.
44	PMC if one is inop. The corresponding IDG must be disconnected. Recommend #2 online for flight in inclement weather.
45	PMC if one generator position is inop so long as essential power can be provided through the other three generator positions, all A.C. busses are paralleled, circuit breaker(s) for inop position are opened and collared, affected IDG is disconnected (if applicable) and all other AC Generators operate normally. Recommend #2 online for flight in inclement weather.
46	PMC if one Transformer Rectifier (TR) is inop. For three TR operation, each TR must have an operative LOAD/AMS indication. Both volt and amp indication are required for the main battery.
47	PMC if inop provided APU can supply electrical power.
48	PMC if main and nose wheel well light is inop and wing illumination lights are inop. PMC if one fixed or retractable light is operative on each wing. PMC if one of the two bulbs in each position light (left red/ right green wing tip, and tail light) is inop. For night operations, the following must be operating; Main and nose wheel well lights and wing illumination lights.

QUALIFYING NOTES	
49	PMC if: - Track lighting may be inop as long as all Overhead Emergency Exit Lights are operational, and at least one Side Emergency Exit light per hatch is operative. - Overhead Emergency Exit Lights may be inop as long as the Track lighting is operational and at least one Side Exit light is operational per hatch.
50	PMC if inop. Both landing lights on the side of the aircraft with the inoperative runway turnoff light must be operable.
51	PMC if top and one bottom are operable.
52	PMC if Emergency Lighting System is operable
53	PMC if sufficient lights to clearly illuminate all instruments and controls are provided.
54	PMC. Both may be inop provided a visual check of the leading edge devices is made prior to takeoff and landing.
55	PMC if PA system and interphone systems are operable.
56	PMC if inop provided it is in the closed position. During engine start, the nose gear T-handle will remain installed until after Utility Hydraulic system is powered. During engine shutdown, the nose gear T-Handle will be installed prior to shutting down the Utility Hydraulic System
57	PMC if one light is operating for each pump at the CP or FE stations
58	PMC if inop provided air charge is confirmed within limits
59	PMC with line light inoperative (valve light must work) provided the valve is determined to be operating normally and all other valves are operable.
60	PMC if both pumps are inop. If both pumps are inop, center tank fuel is not available for flight. PMC is switch is inop. Pump will not be used.
61	PMC if either is inop and inoperative valve(s) is verified in the closed position.
62	PMC if inop provided Reserve Tank and Main Tank Quantity Indicators function normally.
63	PMC for TNG, NMC flyable for RT, if indication on ground refuel switch is inop provided aircraft ground refuel valve operation is verified prior to flight. Required for air refueling operation only if taking on fuel.
64	If inop, PMC for TNG, NMC flyable for RT. Air refueling will not be accomplished.
65	If inop, PMC for TNG, NMC flyable for RT. One must operate if Autopilot is to be used. One must operate if Air Refueling is planned.
66	If inop, PMC for TNG, NMC flyable for RT. Always required for night air refueling.
67	PMC if one set of ready, contact, and disconnect lights is operable.
68	PMC if both indicators are inop provided the respective Main Tank indicator and Transfer Valve Light are operating normally and Reserve tank Dripstick readings are taken prior to flight.
69	If one indicator is inop, PMC for TNG, NMC flyable for RT, provided dripstick readings are taken to determine fuel quantity prior to flight, fuel flow readings and fuel consumption rates are compared to the symmetrical operable indicator and fuel loading and use schedule in T.O. 1E-8C-5 and 1E-8C-1 are utilized. Dry contacts may be made without restriction. Do not air refuel except for an actual In-Flight Emergency.
70	PMC if inop. Fuel quantity in center tank must be verified prior to flight and all Main Tank indicators must be operational. Do not on load fuel into the tank during air refueling.
71	One regulator will be available for each person on board except bunk seat #4.
72	PMC if gauge readings on the bottle show an adequate charge.
73	PMC if either the CVR Cockpit Voice Recorder or the Digital Flight Data Recorder is operational.

QUALIFYING NOTES	
74	One always required for extended over water operation
75	PMC when both pilots' mach and airspeed indicators are operative.
76	PMC if one is inop provided respective heaters are checked on the ground and determined to be operative prior to each takeoff and the Pitot Heat Off light is operative
77	PMC if inop provided both ammeters are operative
78	PMC if one is operable.
79	Both altimeters must be operative in any mode for takeoff. RESET required for pilot and copilot for RVSM flights. PMC if vibrator is inop in one altimeter provided the associated CADC function is operative.
80	-Not used.
81	PMC if one is inop
82	PMC if only one Mach indicator is inoperative provided both Airspeed indicators, Mach/Airspeed warning flags, and Mach trim are operative. Both Mach indicators must be operational for flights over water due to RVSM requirements.
83	CADC #1 and #2 req for RVSM Flights. #1 CADC required for night or IFR operations.
84	PMC if one Total Air Temp indicator or Static Air Temp indicator is operable.
85	PMC if one is inop. Aircraft may fly in VMC flight conditions.
86	PMC if one HSI is inop provided the corresponding RMDI is operable. PMC if one DME readout in HSI is operative if the other HSI or FMS CDU readout is operable at the pilot stations
87	PMC if glideslope pointer is inoperative and corresponding HSI glideslope pointer is operational.
88	PMC if one AHRS is operable and one INS is operable.
89	If inop, PMC for TNG, NMC flyable for RT. Always required for night and IMC operations
90	PMC if inop. Aircraft will not enter RVSM airspace.
91	PMC if inop. Altitude hold is required for RVSM flight. Crew duty day is limited IAW 11-2E-8 V3.
92	Always required if Autopilot is functional
93	PMC provided Rudder Axis is operable
94	PMC if corresponding Mach/Airspeed indicator is operative and Mach Trim Circuit Breaker is pulled and collared
95	PMC if inop provided Control Wheel Trim System operates normally
96	PMC for TNG, NMC flyable for RT if both are inop provided both AHRS are operable. PMC if one INS is inop, one INU required for mission radar. Both INUs required for flight in RNP/BRNAV airspace. Predictive Wind shear will be inoperative with loss of INU #2.
97	Both pilot CDUs must be operative. For mission flights, the NAV CDU must also operate.
98	PMC provided all three navigation modes can be selected using both pilot's "six-pack".
99	PMC if one Flight Deck VHF is operable. Secure voice operational if mission dictates.
100	PMC if one is inop. One required for over water flights.
101	PMC if inop. Radio frequency oscillator must be operational with sufficient HQ capable UHF radios based on mission requirements
102	PMC if eight UHF mission radios and one Flight Deck radio are operational. Secure voice operational if mission dictates. At least one radio must have Guard monitoring capability. PMC if HAVE QUICK capability is inop. Radio frequency oscillator must be operational with sufficient HQ capable UHF radios based on mission requirements.

QUALIFYING NOTES	
103	NMC if less than 14 CMTs are operable.
104	PMC if the Pilot, Copilot, and Engineer are operational. For flights with a Navigator, the Nav's must operate. Need GIT 1 (PA/FLT NET)
105	PMC provided GIT #1 and #2 are operative.
106	PMC if inop. Ground and flight crews will be thoroughly familiar with hand signals and engine start sequence. Need GIT #1.
107	PMC if inop provided cabin crewmembers have interphone capability. Need GIT #1.
108	PMC if one is operational for each occupied position. One required in each lower comp. One required at comm rack 1 and above OWS 17.
109	PMC provided four are operational: Forward Lower Compartment, Aft Lower Compartment, Emergency Escape Hatch/Door, and Mid-Cabin. Need GIT #1.
110	PMC if one transponder is inoperative. Mode 4 must be operable at forward locations.
111	PMC if 2 are operable or PMC if all are inop if BLOS is operational.
112	PMC if inoperative provided VOR and TACAN radio navigation aids are operative.
113	PMC if the corresponding HSI is operative
114	PMC if inop. Always required for night/IMC flight.
115	PMC if one TACAN or one VOR/ILS is operable at each pilot's station. One DME must be operational—may be CDU or Horizontal Situation Indicator.
116	PMC if one is inop. #1 system operative for GPWS, Night/IMC flying. #2 System operative for Windshear/RVSM, Night/IMC flying, or digital weather radar.
117	PMC if one scope is inop. Scope is required for night/IMC/known or forecast t-storm flight. If Predictive Windshear is inop the mode must be turned off.
118	PMC provided allowable limits are met in 1E-8C-2-99GS-00-3 Table 1-1.
119	PMC if failure allows two transmitter configuration.
120	PMC if one operable, must be in #1 position.
121	PMC if one operable, must be associated with operational CC.
122	PMC with 14 operational workstations. The NAV station must be operational.
123	PMC if one laptop and corresponding radio are operational.
124	PMC if forward slide and one aft slide are functional.
125	Always required for flights over water.

RONALD C. ROUX, Col, USAF
Chief, C2ISR Division (ACC/A4C)

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 21-103, <http://www.e-publishing.af.mil/pubfiles/af/21/afi21-103/afi21-103.pdf>,

Equipment Inventory, Status, and Utilization Reporting

Abbreviations and Acronyms

ACC—Air Combat Command

AFB—Air Force Base

BSL—Basic System Lists

DOC—Design Operational Capability

FSL—Full System List

HQ—Headquarters

IAW—In Accordance With

MAJCOM—Major Command

MESLs—Minimum Essential Systems Lists

MRA—Mission Ready Available

NMC—Not Mission Capable

OCR—Office of Collateral Responsibility

RT—Reconnaissance, Tactical

SORTS—Status of Resources and Training System

TACAN—Tactical Airborne Navigation

WUC—Work Unit Code